



15977-3

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
SUNGHO JIN) Examiner: Booth, Richard A.
Application No.: 10/646,502) TC/Art Unit: 2812
Filed: August 23, 2003)
For: MICROSCALE VACUUM TUBE DEVICE)
AND METHOD FOR MAKING SAME)
June 16, 2005

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed PTO-1449. In accordance with the Official Gazette notice dated August 5, 2003, copies of cited U.S. Patents and U.S. published applications are not enclosed. Copies of the other cited references, however, are enclosed. Also enclosed is a copy of an International Search Report received in a related PCT application which cites references disclosed herein.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

June 16, 2005

Date of Deposit

Daniel D. Sierchio (Reg. No. 53,591)

Name

Daniel D. Sierchio
Signature

June 16, 2005

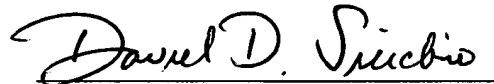
Date of Signature

It is respectfully requested that the PTO-1449 form be initialed and returned,
indicating that the cited references have been considered.

CONCLUSION

Applicant's undersigned attorney may be reached by telephone at (973) 597-2500.
All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

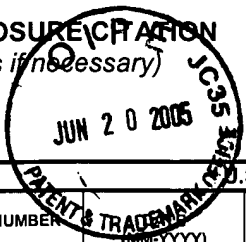
A handwritten signature in cursive script that reads "Daniel D. Sierchio". The signature is written in dark ink and is positioned above a horizontal line.

Daniel D. Sierchio
Attorney for Applicant

Registration No. 53,591

DOCKET ADMINISTRATOR
Lowenstein Sandler PC
65 Livingston Avenue
Roseland, NJ 07068

INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)	Docket Number (Optional) 15977-3	Application Number 10/646,502
	Applicant(s) SUNGHO JIN	
	Filing Date August 23, 2003	Group Art Unit 2812



U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE (MM-YYYY)	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,297,592	10-2001	Goren et al.	315	3.5	
		6,538,367	03-2003	Choi et al.	313	309	
		6,283,812	09-2001	Jin et al.	445	24	
		2003/0096104	05-2003	Tobita et al.	428	332	
		6,187,604	02-2001	Gilton	438	20	
		5,637,539	06-1997	Hofmann et al.	438	20	
		6,141,470	10-2000	Espindola et al.	385	37	
		6,124,650	09-2000	Bishop et al.	310	40	
		5,811,916	09-1998	Jin et al.	313	311	
		6,519,075	02-2003	Carr et al.	359	291	
		6,574,026	06-2003	Jin et al.	359	224	
		6,391,670	05-2002	Wells et al.	438	20	
		6,620,640	09-2003	Gilton	438	20	
		2002/0146853	10-2002	Karpov et al.	438	20	

FOREIGN PATENT DOCUMENTS								
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE (MM-YYYY)	NAME	CLASS	SUBCLASS	TRANSLATION	
		EP 1 184 888	03-2002	Howard et al.	H01J21	10	Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
		Gilmour, Jr., A.S., "Microwave Tubes," Artech House, pgs. 191-313 (1986)	
		Brodie, I., et al., "Vacuum Microelectronics," Advances in Electronics and Electron Physics, Vol. 83, pgs. 1-106 (1992)	
		Bower, C., et al., "On-chip vacuum microtriode using carbon nanotube field emitters," Applied Physics Letters, Vol. 80, No. 20, pgs. 3820-3822 (May 20, 2002)	

Examiner Signature	Date Considered
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Form PTO-A820 (also form PTO-1449)

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							Yes	No

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

		Rinzler, A.G., et al., "Unraveling Nanotubes: Field Emission from an Atomic Wire," Science, Vol. 269, pgs. 1550-1553 (September 15, 1995)	
		de Heer, Walt A., et al., "A Carbon Nanotube Field-Emission Electron Source," Science, Vol. 270, pgs. 1179-1180 (November 17, 1995)	
		Saito, Y., et al., "Field Emission Patterns from Single-Walled Carbon Nanotubes," Jpn. J. Appl. Phys., Vol. 36, Part 2, No. 10A, pgs. L1340-L1342 (October 1, 1997)	
		Wang, Q.H., et al., "Field emission from nanotube bundle emitters at low fields," Appl. Phys. Lett., Vol. 70, No. 24, pgs. 3308-3310 (June 16, 1997)	
		Saito, Y., et al., "Cathode Ray Tube Lighting Elements with Carbon Nanotube Field Emitters," Jpn. J. Appl. Phys., Vol. 37, Part 2, No. 3B, pgs. L346-L348 (March 15, 1998)	
		Wang, Q.H., et al., "A nanotube-based field-emission flat panel display," Applied Physics Letters, Vol. 72, No. 22, pgs. 2912-2913 (June 1, 1998)	
		Bonard, Jean-Marc, et al., "Field emission from single-wall carbon nanotube films," Applied Physics Letters, Vol. 73, No. 7, pgs. 918-920 (August 17, 1998)	
		Liu, J., et al., "Fullerene Pipes," Science, Vol. 280 pgs. 1253-1256 (May 22, 1998)	
		Li, W.Z., et al., "Large-Scale Synthesis of Aligned Carbon Nanotubes," Science, Vol. 274, pgs. 1701-1703 (December 6, 1996)	
		Tans, Sander J., et al., "Individual single-wall carbon nanotubes as quantum wires," Nature, Vol. 386, pgs. 474-477 (April 3, 1997)	
		Fan, S., et al., "Self-Oriented Regular Arrays of Carbon Nanotubes and Their Field Emission Properties," Science, Vol. 283, pgs. 512-514 (January 22, 1999)	
		Bower, C., et al., "Nucleation and growth of carbon nanotubes by microwave plasma chemical vapor deposition," Applied Physics Letters, Vol. 77, No. 17, pgs. 2767-2769 (October 23, 2000)	

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							Yes	No

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

		Dean, K., et al., "The environmental stability of field emission from single-walled carbon nanotubes," Applied Physics Letters, Vol. 75, No. 19, pgs. 3017-2019 (November 8, 1999)					
		Adachi, H., et al., "Stable carbide field emitter," Appl. Phys. Lett., Vol. 43, No. 7, pgs. 702-703 (October 1, 1993)					
		Huang, M., et al., "Room-Temperature Ultraviolet Nanowire Nanolasers," Science, Vol. 292, pgs. 1897-1899 (June 8, 2001)					
		Aggarwal, S., et al., "Spontaneous Ordering of Oxide Nanostructures," Science, Vol. 287, pgs. 2235-2237 (March 24, 2000)					
		Luo, Y., et al., "Nanoshell tubes of ferroelectric lead zirconate titanate and barium titanate," Applied Physics Letters, Vol. 83, No. 3, pgs. 440-442 (July 21, 2003)					
		Ren, Z.F., et al., "Synthesis of Large Arrays of Well-Aligned Carbon Nanotubes on Glass," Science, Vol. 282, pgs. 1105-1107 (November 6, 1998)					
		Bower, C., "Plasma-induced alignment of carbon nanotubes," Applied Physics Letters, Vol. 77, No. 6, pgs. 830-832 (August 7, 2000)					
		Merkulov, V., "Shaping carbon nanostructures by controlling the synthesis process," Applied Physics Letters, Vol. 79, No. 8, pgs. 1178-1180 (August 20, 2001)					
		Teo, K., et al., "Plasma enhanced chemical vapour deposition carbon nanotubes/nanofibres-how uniform do they grow?," Nanotechnology, Vol. 14, pgs. 204-211 (2003)					
		Mackie, W., et al., "Emission and Processing Requirements For Carbide Films On Mo Field Emitters," Mat. Res. Soc. Symp. Proc., Vol. 509, pgs. 173-178 (1998)					

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